

REMARKS

Applicants respectfully request reconsideration and allowance of the present application based on the foregoing amendments and the following remarks. By this amendment, claims 1, 2, 10 and 11 have been amended. Claims 1-22 are pending in the application, with claims 8-9 and 12-18 having been withdrawn from consideration.

Claim Rejections under 35 USC § 103

Claims 1-7, 10-11 and 19-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,263,299 to Aleshin et al. (“Aleshin”) in view of U.S. Patent Pub. No. 2002/0062206 to Liebchen (“Liebchen”). For reasons more fully set forth below, this rejection is respectfully traversed.

Independent claims 1 and 10 have been amended to even more clearly define certain aspects of the invention. For example, the claimed step of “representing at least one resolvable feature ... by at least one impulse function” has been amended to clarify that the resolvable feature comprises a contiguous area of a mask and that the impulse function is at a single point of the contiguous area.

This should even more clearly distinguish the invention from Aleshin. Col. 3 of Aleshin teaches that a mask pattern can include points that have an amplitude of one where a pattern appears and an amplitude of zero where no pattern appears. Aleshin does not expressly or inherently disclose or suggest that a resolvable feature comprising a contiguous area of a mask is represented by an impulse function at a single point of the contiguous area. Rather, Aleshin expressly teaches in col. 11 that mask patterns are decomposed into polygons or rectangles bounded by vertices (i.e. points) in the mask plane for use in aerial image simulation. Rectangles and polygons could correspond to a contiguous area of a mask, but they are clearly different from impulse functions at a point of the contiguous area, as required by the claims.

Independent claims 1 and 10 have also been amended to clarify the claimed step of “generating / creating an interference map . . . , wherein the interference map represents the at least one resolvable feature to be printed on the substrate and areas of destructive interference.” For example, the claims have been amended to clarify that the interference map is generated by

“processing the at least one impulse function with the TCC function.” Moreover, the areas of destructive interference have been more particularly described as areas of optical interference that are near the resolvable feature on the substrate as a result of the mask being illuminated by the illuminator.

The Final Office Action has stated that Aleshin’s aerial image “represents the printability of resolvable features in terms of areas of light intensity distributions.” However, the claimed areas of destructive optical interference have been amended to more clearly be distinct and in addition to the resolvable feature, and are near the resolvable feature as a result of the mask being illuminated by the illuminator. Aleshin does not disclose or suggest any such areas of interference.

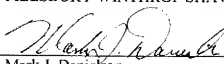
For at least these reasons, amended independent claims 1 and 10 patentably define over the cited prior art, and the 103 rejection of the claims should be withdrawn.

Conclusion

All objections and rejections having been addressed, it is believed that the claims are in condition for allowance, and Notice to that effect is earnestly solicited. If any issues remain which the Examiner feels may be resolved through a telephone interview, s/he is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,
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